

USING DATA FOR ACADEMIC AND TECHNICAL SKILLS ACCOUNTABILITY WITHIN KENTUCKY CAREER AND TECHNICAL EDUCATION

ACADEMIC ACHIEVEMENT

Introduction

Kentucky Career and Technical Education (CTE) has adopted 10 Career Clusters for which data is collected for accountability: Agriculture, Business & Marketing, Communications, Construction, Health Science, Human Services, Information Technology, Manufacturing, Science & Mathematics, and Transportation.

All school districts and area technology centers that provide Career and Technical Education are eligible to receive federal funds to improve Career and Technical Education through the Carl D. Perkins Vocational and Technical Education Act of 1998.

Five major performance measures have been identified and must be met in order to meet the requirements for Perkins funds: (1) academic and technical skill achievement of CTE students; (2) attainment of secondary school diploma by CTE students; (3) placement in, retention in, and completion of postsecondary education, military service, or employment of CTE students; (4) participation in and completion of nontraditional CTE programs that lead to nontraditional training and employment; (5) number of CTE students receiving a Career Major Certificate or a Certificate of Achievement.

The information presented here will address the first measure—"academic and technical skill achievement of CTE students."

Collecting Academic Data for Career and Technical Education Students

- All students are required to participate in the Commonwealth Accountability Testing System (CATS). Career and Technical Education students are identified by answering Question 9a or 9b of the Student Response Booklet. This question must be marked in order to disaggregate the academic data for CTE students.
- The first Perkins performance measure states, "CTE students are to increase in academic achievement at the same rate as or better than that of all students." To obtain data for academic achievement of CTE students, those students must be identified. Students planning to or having completed three credits in a sequence of courses indicate the career cluster on the Kentucky Core Content Test Student Response Booklet (Question 9a).
- The Career and Technical Education Implementation Manual of the Program of Studies provides recommendations for sequences of courses for the various career majors. A student's Individual Graduation Plan (IGP) may also indicate the courses a student has taken or plans to take related to a career area. All students are to have an IGP updated annually with parental input as mandated by 704 KAR 3:305. Districts may use these sources as well as teachers' class rolls to determine which career cluster to mark on the KCCT to identify CTE students.

How is the academic data for CTE students disaggregated and used for accountability?

- The academic data from the KCCT is disaggregated by CTE career clusters (Agriculture, Business & Marketing, Communications, Construction, Health Science, Human Services, Manufacturing, Information Technology, Science and Mathematics, and Transportation) for students that were identified through Question 9a and 9b of the KCCT Student Response Booklet.
- High school and District CTE Profiles are then compiled using this CATS data. Student academic performance in each of the content areas (reading, math science, etc.) is reported for each career cluster (Ag, Business, Health, etc.) indicating the percent of students scoring Novice, Apprentice, and Proficient in each area.
- The CTE profiles also indicate the academic index of CTE students, which can be compared to the district academic index (all students). This information is used to determine whether or not a district has met Perkins Performance Measure 1--"CTE students are to increase in academic achievement at the same rate as or better than that of all students."
- Schools and districts can use this data to determine in which CTE clusters the academic achievement of students is increasing and in which clusters additional academic rigor should be integrated. Teachers and administrators can analyze this data to determine academic strengths and weaknesses in the various content areas (reading, math science, etc.) for each career cluster to determine instructional strategies to incorporate to make improvements.

TECHNICAL SKILL ACHIEVEMENT

Introduction

Future economic growth is dependent upon the availability of a highly skilled and quality-oriented workforce. In order to ensure that career and technical education students have acquired the skills necessary for successful transition from high school to postsecondary studies or the workforce, Kentucky has initiated a Skill Standards, Assessment, and Certification System. This system is based upon clear and concise standards identified by employers across the state, which culminates in a performance based training and assessment system. Skill Standards provide a common language, goals, and reference points for employers, students, and educators. With these commonalities, educators are better able to design curriculum to meet the needs of industry; students have a better understanding of what they must know and be able to do in order to prepare for careers; and employers have in place an efficient system for recruiting and evaluating potential employees.

Kentucky has in place the development and implementation of a number of Skill Standards and Assessments projects including: Agriculture, Business and Marketing, Health Science, Human Services, Technology Education/Pre-Engineering, Communications, Construction, Transportation, and Manufacturing. All high schools and technical centers are required to integrate these standards into their instructional programs.

How were the standards and assessments developed?

- Following the 1996 National Education Summit, the Workforce Development Cabinet, Kentucky Department of Education, and the Economic Development Cabinet were given the charge by the Governor to assemble business and industry representatives to develop standards in high demand occupational areas.
- Manufacturing was selected as the first area for development and was used as the model in eighteen other career areas. Industry representatives were invited to meet with educators to review existing national standards and/or develop state standards in areas where national standards were non-existent. Each industry group endorsed the standards for their specific industry. In all areas the standards were established in three broad categories: Academic, Employability, and Occupational.
- A Technical Advisor was identified to guide our work and a Skill Standards Consultant was hired as a part of the Division of Career and Technical Education to coordinate and carry out the work.

What types of assessments have been developed?

- Assessment items consist of two types – multiple-choice and performance-based constructed response scenarios. Assessment items are developed and evaluated by Kentucky educators and industry representatives who serve on the Kentucky Occupational Skill Standards (KOSS) Task Force. Each item in the assessment item bank is linked to specific skill standards in each of the nineteen assessment areas.

How are the assessment items validated?

- Before items are approved for inclusion in the Skill Standards Assessment Item Bank, they are piloted in schools offering the student assessments. Industry and education representatives evaluate the student responses. This review and evaluation of items is accomplished through the use of a standard item analysis report that provides performance information on each assessment item. Industry and education representatives work as teams to review items based on the data and ensure that they are accurately linked to the standards. Since this is an industry-driven system, great emphasis is placed on the professional judgment of industry representatives as to the importance of items to be included in the assessment.
- Following a pilot year for assessment items, those items approved by the KOSS Task Force are added to the item bank as official test questions. Data continues to be collected on items and continual review and revision of items occurs on an annual basis.

How are the assessment results used for accountability purposes?

- The Kentucky Occupational Skill Standards Assessment System was adopted as a performance indicator for Perkins Act Accountability. Vocational/Technical Skill Proficiency is measured by the percentage of secondary students who receive a Skill Standards Certificate.
- Each district is held accountable for making continuous improvement in the percentage of students receiving a Skill Standards Certificate or an increase in the number of students tested and the number of certificates presented from one year to the next.

Who participates in the assessment?

- It is recommended that Career and Technical Education Concentrators, those students who have taken three credits within an area of concentration, who are in their junior or senior year of high school participate in the assessments. Students who do not pass the assessment as a junior are eligible to participate in the assessment again as a senior.

How is the system managed on a statewide level?

- This assessment system is a state managed system that is housed, scored and reported from the state level. A Skill Standards Assessment Coordinator at the district/local level does actual administration of the assessment. Individuals involved in administering the assessment sign and submit a Security Statement as well as a Nondisclosure Statement in order to maintain the integrity and security of the assessment.

How are the assessments scored and results reported?

- The Division of Career and Technical Education Skill Standards Consultant electronically scores the multiple-choice portion of the assessment upon submission from the district level. In order to pass this portion of the assessment, industry has established that a student must score at or above 70%. The performance based constructed response scenario portion of the assessment is double blind scored by KOSS Task Force members in each of the skill standards areas. The scenario scores are based on a scoring rubric that indicates performance levels. In order to pass this portion of the assessment, industry has established that a student must score at or above a 3 on a 4-point scale.
- Following scanning of all student response sheets, results are processed for reporting through an Access database system. Tables, queries, and reports were developed to specifically meet the state established reporting needs as well as generating information to be used for federal reporting. Prior to the end of the school year, schools receive individual student, school and state reports indicating the number of students participating in the assessment by assessment area, the number of students passing the assessment, the percentage of students receiving certificates as well as mean scores for the multiple-choice and scenario portions of the assessments.

How are business, industry and postsecondary education using and promoting the Skill Standards, Assessment, and Certification System?

- Many of the industry organizations that have endorsed the standards are proactively promoting the system with their members to recognize the value of the standards and assessments. As an example, the Kentucky Bankers Association has developed brochures that promote the standards and have sent letters to their member banks recommending they recognize students who have received certification in their employment process.
- Industry logos are printed on the specific skill standards certificates as an indication of the industry endorsement of the standards and certification. In addition, a representative of the major endorsing industry signs the certificates.
- Students who have received certificates have been featured in industry newsletters or magazines promoting the recognition of students with industry.

Using Data for CTE Accountability

- The Agricultural Education program is pleased to announce a “State Articulation Agreement” that will go into effect for the 2003-04 school year. It will be in effect for all Kentucky High School Agricultural Education programs.

State articulation agreements went into effect for the 2003-04 school year in the area of agriculture. This articulation agreement has been signed by the appropriate educators at: Eastern Kentucky University, Morehead State University, Murray State University and Western Kentucky University. It should be noted that the College of Agriculture at the University of Kentucky also supports this effort in concept but was not able to complete all the “internal” processes necessary to take part this year.

This articulation agreement is very significant in the fact that students in agricultural education who complete at least three (3) high school credits in an agriculture career major (with a grade of “B” or better in all three (3) classes), and who also pass the appropriate “Skill Standards Assessment” for that major area, will receive three (3) credit hours in an appropriate general elective agriculture class at the collegiate level (at the four (4) universities listed). The “Statewide” aspect of the agreement means that it is not necessary for each individual high school to develop its own “articulation agreements” with these universities.

What does this mean to your students and your high school?

1. Encourages more agriculture students to enroll in Post Secondary Education.
2. Encourages students to make every effort to pass the Agricultural Education Skill Standards Assessments.
3. Motivates students to achieve academically in their agricultural education classes (to earn a “B” or better).
4. Motivate students to select and pursue a “Career Major” in agriculture.
5. Allow students to earn college credit while in high school.

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